UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,393	12/12/2003	Pierrick Guingo	ALC 3109	8508

7590 03/28/2011

KRAMER & AMADO, P.C.
Suite 240
1725 Duke Street
Alexandria, VA 22314

EXAMINER	
ANWARI, MACEEH	
ART UNIT	**PAPER NUMBER**
2451	

MAIL DATE	DELIVERY MODE
03/28/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PIERRICK GUINGO, VINCENT MOUILLERON,
ARNOLD JANSEN, and GERARD DAMM

Appeal 2009-007176
Application 10/733,393
Technology Center 2400

Before: JOSEPH L. DIXON, JAY P. LUCAS, and DEBRA K. STEPHENS,
Administrative Patent Judges.

STEPHENS, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) (2002) from a final rejection of claims 1 and 3-26. Claim 2 has been canceled. (Appeal Br., Claims App'x). We have jurisdiction under 35 U.S.C. § 6(b) (2008).

We REVERSE.

Introduction

According to Appellants, the invention is a system and method for non-invasive flow measurements in computer-based communication systems (Specification 1, [001]).

STATEMENT OF CASE

Exemplary Claims

> 1. A method of monitoring traffic flows in a service provider domain of a communications network, the domain being logically configured as a virtual router network having virtual interfaces at edge nodes of the virtual router network, comprising the steps of:
>
> a) configuring said virtual interfaces with a respective real-time flow measurement meter, said respective real-time flow measurement meter having a uniform behavior with respect to a real-time flow measurement
>
> b) determining, at said virtual interfaces and in dependence upon a flow monitoring rule set consistent for all of said virtual interfaces, whether a packet belongs to a flow to be monitored;
>
> c) accounting, responsive to the packet belonging to a flow to be monitored, the packet in a flow record corresponding to that flow maintained by said respective real-time flow measurement meter; and

d) aggregating the flow records from all virtual interfaces at a master virtual interface for transmission to a collector for enabling said service provider to identify if a specified flow record abides to terms of a corresponding service level agreement pertaining to said specified flow record.

22. A computer-implemented system for measuring per-flow traffic delay between two routers having synchronized clocks, comprising:

means for calculating, at each of the routers, a key for every packet in the flow, wherein the key uniquely and invariantly identifies a corresponding packet in the flow;

means for selecting, at each of the routers using the key, a packet to be monitored;

means for recording, at each of the routers, a timestamp upon selection of each packet; and

means for subtracting the timestamps to determine the delay for the packet.

References

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Klinker	US 2002/0145981 A1	Oct. 10, 2002
Kanekar	US 6,751,191 B1	Jun. 15, 2004

REJECTIONS

Claims 22-26 stand rejected under 35 U.S.C. § 101 as being drawn to non-statutory subject matter. (Ans. 3-4).

Claims 19-21 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Klinker. (Ans. 4-5).

Claims 22-26 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Kanekar. (Ans. 6-7).

Claims 1 and 3-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kanekar and Klinker. (Ans. 7-14). [1]

GROUPING OF CLAIMS

(1) Appellants argue the 35 U.S.C. § 101 rejection of claims 22-26 as a group on the basis of independent claim 22. (App. Br. 7). We accept independent claim 22 as the representative claim. We will, therefore, treat claims 23-26 in this rejection as standing or falling with representative claim 22.

(2) Appellants argue the 35 U.S.C. § 102(b) rejection of claims 19-21 as a group on the basis of independent claim 19 (*id.* at 7-9). We accept independent claim 19 as the representative claim. We will, therefore, treat claims 20 and 21 as standing or falling with representative claim 19.

(3) Appellants argue the 35 U.S.C. § 102(e) rejection of claims 22-26 as a group on the basis of independent claim 22 (*id.* at 10-11). We accept independent claim 22 as the representative claim. We will, therefore, treat claims 23-26 in this rejection as standing or falling with representative claim 22.

(4) Appellants argue the 35 U.S.C. § 103(a) rejection claims 1, 3-18 as a group on the basis of independent claims 1 and 14 (*id.* at 11-14). We select independent claim 1 as the representative claim. We will, therefore, treat claims 3-18 as standing or falling with representative claim 1.

---

[1] The rejection of claim 10 under 35 U.S.C. § 112, first paragraph has been withdrawn by the Examiner. (Ans. 3).

We accept Appellants' grouping of the claims. *See* 37 C.F.R. § 41.37(c)(1)(vii).

ISSUE 1

35 U.S.C. § 101: claims 22-26

Appellants argue their invention is not directed to non-statutory subject matter because

> Claim 22, from which claims 23-26 depend, recites a "*computer-implemented system* for measuring per-flow traffic delay" (emphasis added). Because the system of claim 22 is implemented in computer hardware and includes a number of computer components, claim 22 recites the necessary physical articles or objects to constitute a *machine or manufacture* within the meaning of 35 U.S.C. § 101. Accordingly, the subject matter recited in claims 22-26 clearly qualifies under at least one of the statutory categories enumerated in 35 U.S.C. § 101,

(App. Br. 7, emphasis original).

In response, the Examiner maintains that "[t]he system (including the routers) recited in claim[s] 22- 26 is interpreted as being software per se[,] therefore the claims still fail to meet the statutory requirements under 35 U.S.C. § 101." (Ans. 14).

In response to the Examiner's Answer the Appellants reiterate the arguments proffered in the Appeal Brief adding that the "Examiner has misconstrued the claims and misapplied the law" further stating that

> the United States does not currently exclude software *per se* from patentability. . . [and] even assuming, *arugendo* that the claims are properly interpreted as software *per se,* which they are not, such an interpretation would not justify automatic

> exclusion of this subject matter from patent eligibility under 35 U.S.C. § 101.

(Reply Br. 4, emphasis original).

Issue 1: Has the Examiner erred in finding that claims 22-26 are directed to non-statutory subject matter?

FINDINGS OF FACT (FF)

Appellants' Invention

(1) The MIB (Management Information Base) is embedded in the IP (Internet Protocol) router and corresponds to the structure and implementation of the underlying hardware (Spec. 2, [0005]). The router MIB is designed based on the specific structure and implementation of the IP router, and therefore will not be the same for equipment from different vendors (Spec. 2, [0006]). For example, the Argent Guardian tool from Argent Software Inc. has different versions for performance monitoring, proactive problem detection and correction depending on the monitored entities (*id.*). The Argent Guardian for Cisco can only be used for Cisco routers because it uses the Cisco router MIB to retrieve and query the traffic information (*id.*).

ANALYSIS

"This court has indicated that a statement in a specification that describes the invention as a whole can support a limiting construction of a claim term." *American Piledriving Equipment, Inc. v Geoquip, Inc.* (Fed

Cir, 2010-1283, 3/21/2011) (*see pg. 14, second paragraph*) (citations omitted). Appellants, in their Specification, describe routers which are hardware (FF 1). The Examiner has not pointed to, nor is it readily apparent to us, that Appellants have described or implied that the routers are purely software. Therefore, we find that routers, as used by Appellant, are hardware.

We find that the invention in claim 22 does not recite the routers themselves, but recites means for using data from packets at each of the routers and calculating, selecting, recording, and subtracting the various data. These steps indicate data is being exchanged between the routers. Thus, claim 22 does not recite a "machine" under 35 U.S.C. § 101.

We find that the steps require performance on the router, however. Thus, we conclude the claimed steps are sufficiently tied to the two routers and require transfer of data between two machines (the routers). As such, we conclude the claims do not recite merely an abstraction or abstract idea.

Accordingly, we conclude the invention as recited in claims 22 and consequently, dependent claims 23-26 are directed toward statutory subject matter.

ISSUE 2

35 U.S.C. § 102(b): claims 19-21

Appellants assert their invention is not anticipated by Klinker because Klinker does not teach or suggest all of the steps of claim 19. More specifically, Appellants contend that Klinker does not teach calculating, at each of the routers, a key *uniquely and invariantly* identifying a corresponding packet in the flow as recited in claim 19 (App. Br. 8 and 9).

Instead, according to Appellant, Klinker is silent regarding a unique and invariant key and discloses parsing the data packets to retrieve packet information but does not calculate a key based on the packet information (App. Br. 8). Appellant contends Klinker "indiscriminately analyzes traffic without first selecting a packet to be monitored using a key" (App. Br. 9).

Issue 2: Have Appellants shown the Examiner erred in finding that Klinker discloses the limitations of claim 19?

ANALYSIS

Analysis of whether a claim is patentable over the prior art under 35 U.S.C. § 102 begins with a determination of the scope of the claim. We determine the scope of the claims in patent applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). The properly interpreted claim must then be compared with the prior art.

During examination, "claims ... are to be given their broadest reasonable interpretation consistent with the specification, and ... claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art." *In re Bond,* 910 F.2d 831, 833 (Fed.Cir.1990); *accord Bass,* 314 F.3d at 577 ("[T]he PTO must apply the broadest reasonable meaning to the claim language, taking into account any definitions presented in the specification."); *In re Cortright,* 165 F.3d 1353, 1358 (Fed.Cir.1999) ("Although the PTO must give claims their broadest reasonable interpretation, this interpretation must be consistent with the one

that those skilled in the art would reach."); *See also*, *Hyatt,* 211 F.3d 1367, 1372 (Fed. Cir. 2000).

Appellants have not explicitly defined the term "key" and the Examiner has not pointed to any definition. However, based on our review of the Specification, we find a key cannot be reasonably interpreted as a packet header.

We agree with the Appellants' contentions that the Examiner has not shown Klinker discloses the disputed limitations (App. Br. 7-9). The Examiner points to various portions of Klinker to support the contention that Klinker discloses calculating at each router, a key uniquely and invariantly identifying a corresponding packet in the flow and using the key to select a packet to be monitored (Ans. 4, 5, 14, and 15). However, the Examiner does not fully explain how disclosure of packet headers by Klinker describes keys that uniquely and invariantly identify a packet. Indeed, we find that the disclosure of packet headers does not necessarily describe a key.

A reference anticipates a claim if it discloses the claimed invention "such that a skilled artisan could take its teachings in combination with his own knowledge of the particular art and be in possession of the invention." In *re Graves*, 69 F.3d 1147, 1152 (Fed. Cir. 1995) (quoting *In re LeGrice*, 301 F.2d 929, 936, 133 USPQ 365, 372 (CCPA 1962)).

Additionally, the Examiner does not fully explain how disclosure of packet headers discloses *calculating* a key. The *prima facie* case is a procedural tool of patent examination, allocating the burdens of going forward as between examiner and applicant (*In re Spada,* 911 F.2d 705, 707 n. 3, 15 (Fed.Cir.1990)). The term "*prima facie* case" refers only to the initial examination step (*In re Piasecki,* 745 F.2d 1468, 1472 (Fed.Cir.1984);

In re Rinehart, 531 F.2d 1048, 1052 (CCPA 1976)). As discussed in *In re Piasecki,* the examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability. If that burden is met, the burden of coming forward with evidence or argument shifts to the applicant.

We conclude that the rejection of claim 19 lacks the requisite specificity needed for the establishment of a prima facie case of anticipation. As the Examiner bears the initial burden of presenting a prima facie case of unpatentability (*In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992)), and that burden has not been met in a manner enabling proper review. Further, Appellant has shown the Examiner erred in finding Klinker describes a key uniquely and invariantly identifying a corresponding packet in the flow.

Therefore, we conclude the Examiner has not shown Klinker anticipates the invention as recited in independent claim 19 and dependent claims 20 and 21. Accordingly, the Examiner has not shown claims 19-21 are anticipated by Klinker.

ISSUE 3

35 U.S.C. § 102(e): claims 22-26

Appellants assert their invention is not anticipated by Kanekar because Kanekar does not teach or suggest all of the steps of claim 22. Specifically, Appellants contend that Kanekar does not teach the steps of means for calculating, at each of the routers, a key uniquely and invariantly identifying a corresponding packet in the flow as recited in claim 22. (App. Br. 10-11).

The Examiner finds with respect to the above that Kanekar discloses adding every packet to an entry in the corresponding table, as the selected packets, through the packet headers, which act as the key. (Ans. 15).

Issue 3: Has the Examiner erred in concluding Kanekar teaches or suggests all of the steps of claim 22?

ANALYSIS

We agree with the Appellants' contentions that the Examiner has not shown Kanekar discloses the disputed limitations (App. Br. 10 and 11). Again, the Examiner points to various portions of the cited reference, in this rejection Kanekar, to support the contention that the reference discloses means for calculating at each router, a key uniquely and invariantly identifying a corresponding packet in the flow and means for using the key to select a packet to be monitored (Ans. 6, 7, 15, and 16). However, the Examiner does not fully explain how disclosure of packet headers by Kanekar describes keys that uniquely and invariantly identify a packet. Moreover, as above in Issue 2, we find the disclosure of a packet header does not necessarily disclose a key. Further, the Examiner has not shown how the disclosure of packet header describes "calculating" the key.

We find the Examiner has not shown Kanekar's disclosure of a packet header describes a key. Further, as discussed above, the Examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability. We conclude that the rejection of claim 22 lacks the requisite specificity needed for the establishment of a prima facie case of anticipation. As the examiner bears the initial burden of presenting a prima facie case of unpatentability (*In re*

Oetiker, 977 F.2d 1443, 1445 (Fed. Cir. 1992)), and that burden has not been met in a manner enabling proper review.

Therefore, we conclude the Examiner has not shown Kanekar anticipates the invention as recited in independent claim 22 and dependent claims 23-26. Accordingly, the Examiner has not shown claims 22-26 are anticipated by Kanekar.

ISSUE 4

35 U.S.C. § 103(a): claims 1and 3-18

Appellants assert their invention is not obvious over Klinker and Kanekar because neither reference nor a combination thereof teaches or suggest the step of aggregating the flow records from all virtual interfaces at a master virtual interface for transmission to a collector as recited in independent claims 1 and 14. (App. Br. 11-12). Instead, according to Appellants, Kanekar teaches both the slave and master each monitor all the traffic coming into the switch and keep a record; however this is not aggregating the records at a master virtual interface (App. Br. 11 and 12).

The Examiner contends that the combination of references discloses a shared set of interfaces, as the *master interface,* and *forwarding/ transmitting* packets to corresponding tables/databases and/or memory units and further discloses forwarding/routing to routing tables and databases which teach or suggest the limitations as claims 1 and 14. (Ans. 16).

Issue 4: Has the Examiner erred in concluding the combination of Klinker and Kanekar teaches aggregating the flow records from all virtual interfaces at a master virtual interface for transmission to a collector, as recited in claims 1 and 14?

FINDINGS OF FACT (FF)

Kanekar

(2) Two routers, a slave and the master, operate independently and thus, may each come to different routing decisions. The slave and the master each maintains its own set of forwarding engine tables. The slave and the master share the same set of interfaces. Prior to failure of the master, the master monitors all traffic entering the switch during active forwarding of packets while the slave monitors all traffic entering the switch while the slave is in standby mode. Once the master fails, the slave actively forwards packets and monitors all traffic coming into the switch, as the master did prior to its failure. Thus, during normal operation, prior to failure of the master, both the slave and the master each monitor all traffic coming into the switch. (Col. 14, ll. 14-38).

(3) Exemplary forwarding engine tables described with reference to FIGS. 13A and 13B, illustrate exemplary layer 2 and layer 3 tables that may be independently maintained by the master and the slave. The layer 2 table 1302 serves as a bridge forwarding database used to determine the LAN and port used to send packets out. Specifically, the layer 2 table includes a MAC address 1304 of a host as specified by the source MAC address of the incoming packet, an associated VLAN 1306 to which the host belongs, and a port 1308 that the packet has come in on. (Col. 14, ll. 30-48).

(4) The master and the slave router each maintains its own layer 3 shortcut table. Each entry in the layer 3 routing table specifies a destination IP address 1312, a source IP address 1314, a destination MAC address 1316, and a source MAC address 1318. (Col. 14, ll. 60-66).

ANALYSIS

The Examiner relies on Kanekar as teaching "aggregating the flow records from all virtual interfaces at a master virtual interface for transmission to a collector" (Ans. 8 and 16). The Examiner contends the shared set of interfaces is the master interface; however, the Examiner does not clearly identify where Kanekar teaches or at least suggests the "all virtual interfaces" in light of the shared set of interfaces teaching the master interface (Ans. 16). Indeed, Kanekar teaches both the slave and the master monitor the traffic going into the switch (FF 2). But the Examiner has not shown, nor is it readily apparent, how the layer tables disclosed in Figs. 13A and 13B are aggregating the flow records. Instead, these forwarding engine tables teach tables used to determine the LAN and port used to send packets out (FF 3) and a table to forward tables in the specified direction (FF 4).

Thus, we conclude that the rejection of claim 1 lacks the requisite specificity needed for the establishment of a prima facie case of anticipation. As the Examiner bears the initial burden of presenting a prima facie case of unpatentability (*In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992)), and that burden has not been met in a manner enabling proper review.

The Examiner does show that Klinker cures the deficiency. Accordingly, we conclude the Examiner has not shown Kanekar and Klinker, taken alone or in proper combination. Independent claim 14 is commensurately recited and claims 3-13 and 15-18 depend from claims 1 and 14, respectively. Consequently, the Examiner has not shown Kanekar and Klinker, taken alone or in proper combination, render the invention as recited in claims 1 and 3-18 obvious.

DECISION

The Examiner's rejection of claims 22-26 under 35 U.S.C. § 101 as being directed to non-statutory subject matter is reversed.

The Examiner's rejection of claims 19-21 under 35 U.S.C. § 102(b) as being anticipated by Klinker is reversed

The Examiner's rejection of claims 22-26 under 35 U.S.C. § 102(e) as being anticipated by Kanekar is reversed.

The Examiner's rejection of claims 1 and 3-18 under 35 U.S.C. § 103(a) as being obvious over Kanekar and Klinker is reversed.

REVERSED

Vsh